BENZENE

Also known as: Benzol, Mineral Naphtha, Phenyl Hydride, Annulene
Chemical reference number (CAS): 71-43-2

WHAT IS BENZENE?

Benzene is a widely used industrial chemical. Benzene is found in crude oil and is a major part of gasoline. It's used to make plastics, resins, synthetic fibers, rubber lubricants, dyes, detergents, drugs and pesticides. Benzene is produced naturally by volcanoes and forest fires.

In homes, benzene may be found in glues, adhesives, cleaning products, paint strippers, tobacco smoke and gasoline. Most benzene in the environment comes from our use of petroleum products.

Benzene quickly evaporates from water or soil. If benzene leaks from buried storage tanks or landfills, it can contaminate nearby drinking water wells. Benzene can move long distances in groundwater.

HOW ARE PEOPLE EXPOSED TO BENZENE?

Breathing: The most common way people are exposed to benzene is when they fill their car with gasoline. People are also exposed to benzene when they use household products that contain benzene.

Benzene evaporates quickly from contaminated water. People can be exposed to benzene if they use contaminated water to bathe, shower, wash dishes or do laundry.

Benzene vapors are present in exhaust from many industries and automobiles. People who live near highways or industries can be exposed to benzene.

Drinking/Eating: People whose drinking water wells are located within half a mile of leaking underground storage tank, may be exposed by drinking contaminated water.

Touching: Benzene can pass through the skin. Benzene exposure through skin contact with gasoline or other solvents is possible. People can also absorb benzene as they bathe or shower in contaminated water.

DO STANDARDS EXIST FOR REGULATING BENZENE?

Water: The state and federal drinking water standards for benzene are both set at 5 parts per billion (ppb). We suggest you stop drinking water that contains more than 5 ppb of benzene. If the level of benzene in your water is higher than 100 ppb, you may also need to avoid washing, bathing or using the water for other purposes. Contact your local public health agency for more information specific to your situation.

Air: No standards exist for the amount of benzene allowed in the air of homes. We recommend that people with any detectable levels of benzene in the air of their homes eliminate the source of the contamination (gasoline in cans, contaminated drinking water, etc.) Most people can smell benzene at levels above 5 parts per million (ppm) in air.

WILL EXPOSURE TO BENZENE RESULT IN HARMFUL HEALTH EFFECTS?

Drowsiness, headaches, and dizziness have been reported when people breathed air with benzene levels of more than 10 ppm for a short time.

The following health effects can occur after several years of exposure to benzene:

Cancer: Long-term exposure to benzene can increase the risk of developing leukemia.

Reproductive Effects: Animal studies show that inhaling benzene vapors can damage reproductive organs and cause infertility. Exposure to benzene in workplaces has caused menstrual variations.

Organ Systems: Exposure to benzene can cause anemia and weaken the immune system.

In general, chemicals affect the same organ systems in all people who are exposed. However, the seriousness of the effects may vary from person to person.

A person's reaction depends on several things, including individual health, heredity, previous exposure to chemicals including medicines, and personal habits such as smoking or drinking.

It is also important to consider the length of exposure to the chemical; the amount of chemical exposure; and whether the chemical was inhaled, touched, or eaten.

CAN A MEDICAL TEST DETERMINE EXPOSURE TO BENZENE?

Benzene breaks down in the body to several other compounds. Those compounds can be found in the blood or urine of people who have been exposed to high levels of benzene within the past two days. Tests will prove an exposure to benzene occurred but will not predict the kind of illness that could result. We do not know what level of benzene break-down products are common in most people, since most people are regularly exposed to some amount of benzene.

People who think they have been exposed to benzene over a long period of time should contact their doctor. Physicians can use blood chemistry, liver function and kidney function tests.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to work exposure or emergency situations.

FOR MORE INFORMATION

- Poison Control Center, 800-815-8855
- Your local public health agency
- Division of Public Health, BEH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120 or Internet: http://www.dhfs.state.wi.us/eh

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